FIG. 1A

```
GTGTCTGGGC GGAGCAAAAT ATGTTCCAAT TGTGTTTTCT TTTGATAGAT TCTTTCAACA    60

GACAGTCTTT TCTTAGCATC TTCATTTTTC TTTATTTTGT TGACTTGCAT ATTTTCATTT   120

ACAGGCTGCA ATGGTGACAC TTCCATGGTG ACGGTCGTGA AGGG                    164
```

FIG. 1B

```
TGAAAAGATG TATGTCCCAG CTCTCATATT TGGACAGCTC CTAACTTCTA GTAACTATGA    60
TGATGATGAA AAGAAAGTGA CAGGTGGTCG AAATGGCTAT GGAGCCAAAT TGTGTAACAT   120
ATTCAGTACC AAATTTACTG TGGAAACAGC CAGTAGAGAA TACAAGAAAA TGTTCAAACA   180
GACATGGATG GATAATATGG GAAGAGCTGG TGA                                213
```

FIG. 1C

```
GCCCATTGGT CAGTTTGGTA CCAGGCTACA TGGTGGCAAG GATTCTGCTA GTCCACGATA    60

CATCTTTACA ATGCTCAGCT CTTTGGCTCG ATTGTTATTT CCACCAAAAG ATGATCACAC   120

GTTGAAGTTT TTATATGATG ACAACCAGCG TGTTGAGCCT GAATGGTACA TTCCTATTAT   180

T                                                                   181
```

FIG. 1D

```
TGAATGGTAC ATTCCTATTA TTCCCATGGT GCTGATAAAT GGTGCTGAAG GAATCGGTAC    60

TGGGTGGTCC TGCAAAATCC CCAACTTTGA TGTGCGTGAA ATTGTAAATA ACATCAGGCG   120

TTTGATGGAT GGAGAAGAAC CTTTGCCAAT GCTTCCAAGT TACAAGAACT TCAAGGGTAC   180

TATTGAAGAA CTGGCTCCAA ATCAATATGT GATTAGTGGT GAAG                     224
```

FIG. 1E

```
TGCGTGAAAT TGTAAATAAC ATCAGGCGTT TGATGGATGG AGAAGAACCT TTGCCAATGC    60
TTCCAAGTTA CAAGAACTTC AAGGGTACTA TTGAAGAACT GGCTCCAAAT CAATATGTGA   120
TTAGTGGTGA AGTAGCTATT CTTAATTCTA CAACCATTGA AATCTCAGAG CTTCCCGTCA   180
GAACATGGAC CCAGACATAC AAAGAACAAG TTCTAGAACC CATGTTGAAT GGCACCGAGA   240
AGACACCTCC TCTCATAACA GACTATAGGG AATACCATAC AGATACCACT GTGAAATTTG   300
TTGTGAAGAT GACTGAAGAA AAACTGGCA                                     329
```

FIG. 1F

CACTCTTTTC AGTTTCCTTT TCGTTGTCAC TCTCTTCATT TTCTTCTTCA TCTGGAACCT 60

TTTGCTGGGC TTCTTTCCAG GCCTTCACAG GATCCGAATC ATATCCCCTC TGAATCAGAA 120

CTTTAATTAA TTCTTTCTTA GGCTTATTTT CAATGATTAT TTTGCCATCT ATTTTCTCTA 180

AGATAAAGCG AGCC 194

FIG. 1G

```
TCTGCCTCTG CTTTCATTTC TATGGTTATT CGTGGAATGA CTCTTTGACC ACGCGGAGAA    60
GGCAAAACTT CAGCCATTTG TGTTTTTTTC CCCTTGGCCT TCCCCCCTTT CCCAGGAAGT   120
CCGACTTGTT CATCTTGTTT TTCCTTGGCT TCAACAGCCT CCAATTCTTC AATAAATGTA   180
GCCAAGTCTT CTTTCCACAA ATCTGA                                        206
```

FIG. 1H

```
GACACGACAC TTTTCTGTGG TTTCAGTTCT TTGTTACTAA GTTTTGGGGA AGTTTTGGTC   60
TTAGGTGGAC TAGCATCTGA TGGGACAAAA TCTTCATCAT CAGTTTTTTC ATCAAAATCT  120
GAGAAATCTT CATCTGAATC CAAATCCATT GTGAATTTTG TTTTTGTTGC TGCTCTCCGT  180
GGCTCTGTTT CTCG                                                     194
```

FIG. 1I

```
CTGAAACCAC AGAAAAGTGT CGTGTCAGAC CTTGAAGCTG ATGATGTTAA GGGCAGTGTA    60
CCACTGTCTT CAAGCCCTCC TGCTACACAT TTCCCAGATG AAACTGAAAT TACAAACCCA   120
GTTCCTAAAA AGAATGTGAC AGTGAAGAAG ACAGCAGCAA AAAGTCAGTC TTCCACCTCC   180
ACTACCGGTG CCAAAAAAAG GGCTGCCCCA AAAGGAACTA AAAGGGATCC AGCTTTGAAT   240
TC                                                                  242
```

FIG. 1J

```
AATTCAAAGC TGGATCCCTT TTAGTTCCTT TTGGGGCAGC CCTTTTTTTG GCACCGGTAG    60
TGGAGGTGGA AGACTGACTT TTTGCTGCTG TCTTCTTCAC TGTCACATTC TTTTTAGGAA   120
CTGGGTTTGT AATTTCAGTT TCATCTGGGA AATGTGTAGC AGGAGGGCTT GAAGACAGTG   180
GTACACTGCC CTTAACATCA TCAGCTTCAA GGTCTGACAC                         220
```

Figure 1K

```
AATTCAAAGC TGGATCCCTT TTAGTTCCTT TTGGGGCAGC CCTTTTTTTG GCACCGGTAG    60
TGGAGGTGGA AGACTGACTT TTTGCTGCTG TCTTCTTCAC TGTCACATTC TTTTTAGGAA   120
CTGGGTTTGT AATTTCAGTT TCATCTGGGA AATGTGTAGC AGGAGGGCTT GAAGACAGTG   180
GTACACTGCC CTTAACATCA TCAGCTTCAA GGTCTGACAC                         220
```

Figure 1L

GTGTTGAGCC TGAATGGTAC ATTCCTATTA TTCCCATGGT GCTGATAAAT GGTGCTGAAG 60
GAATCGGTAC TGGGTGGTCC TGCAAAATCC CCAACTTTGA TGTGCGTGAA TTGTAAATA 120
ACATCAGGCG TTTGATGGAT GGAGAAGAAC CTTTGCCAAT GCTTCCAAGT 170

FIG. 2A

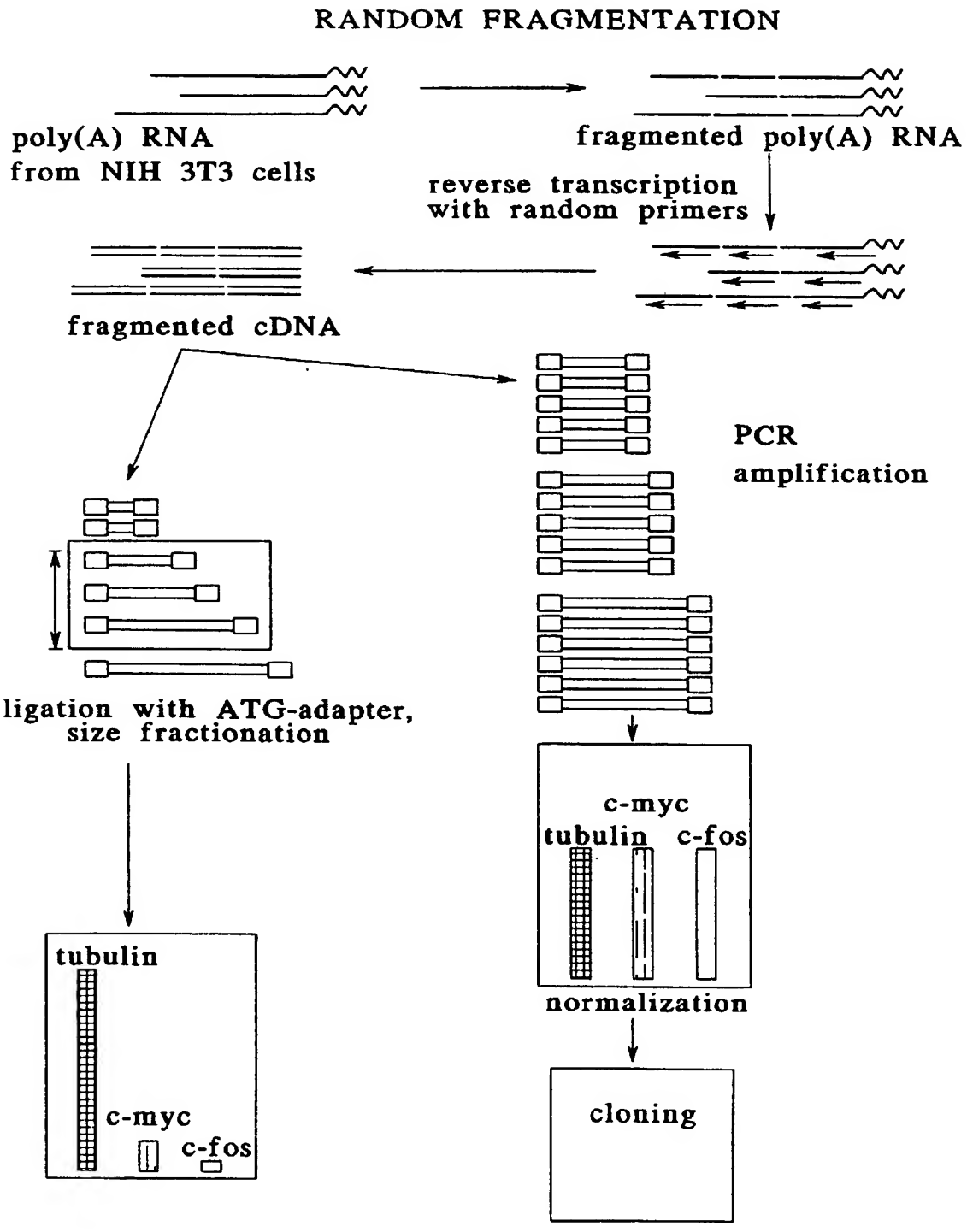

RANDOM FRAGMENTATION
poly(A) RNA
from NIH 3T3 cells
fragmented poly(A) RNA
reverse transcription
with random primers
fragmented cDNA
PCR
amplification
ligation with ATG-adapter,
size fractionation
tubulin
c-myc
c-fos
c-myc
tubulin
c-fos
normalization
cloning

Figure 2B

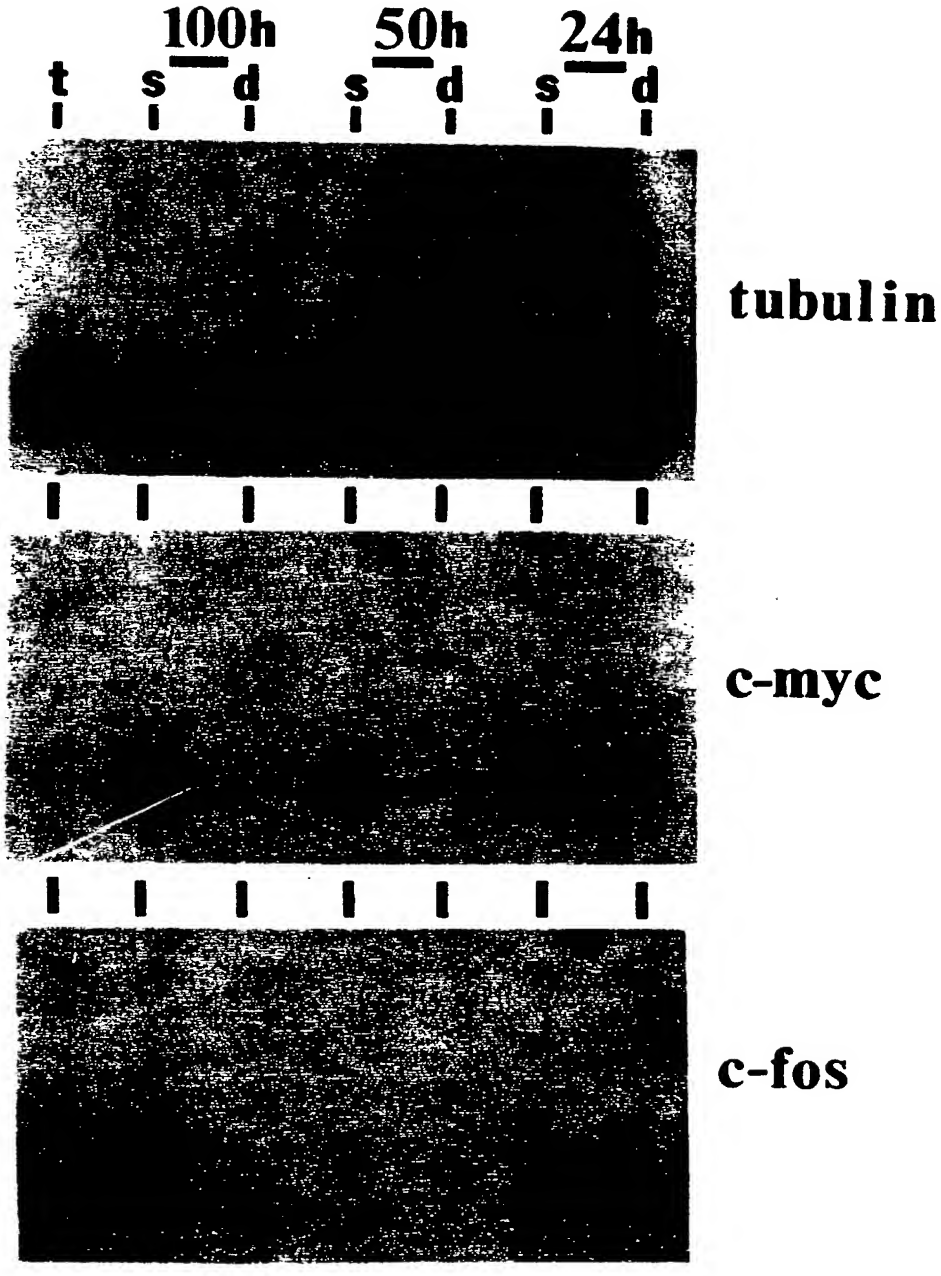


FIG. 3A

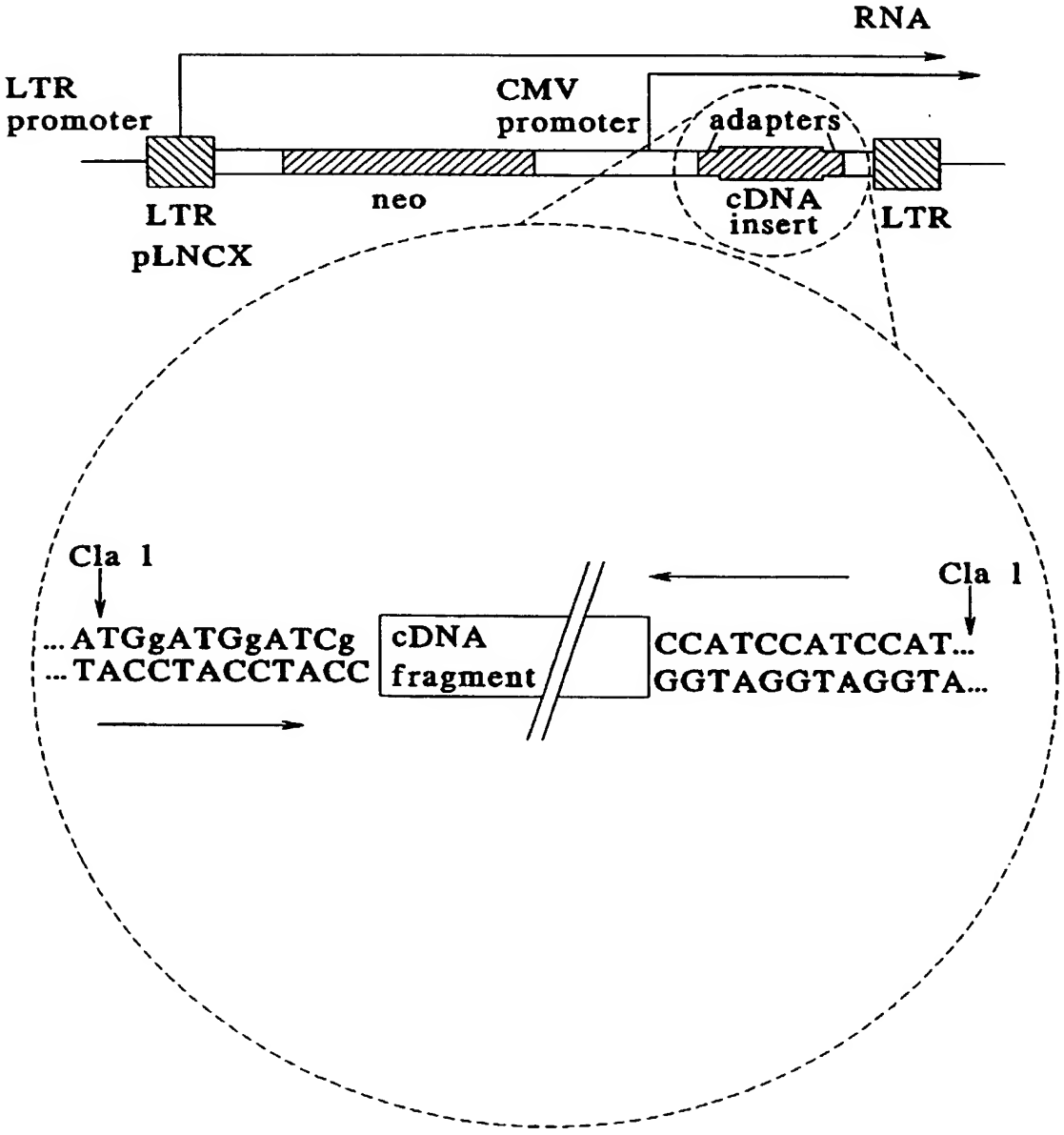

RNA
LTR
promoter
CMV
promoter
adapters
LTR
pLNCX
neo
cDNA
insert
LTR
Cla 1
Cla 1
...ATGgATGgATCg
...TACCTACCTACC
cDNA
fragment
CCATCCATCCAT...
GGTAGGTAGGTA...

FIG. 3B

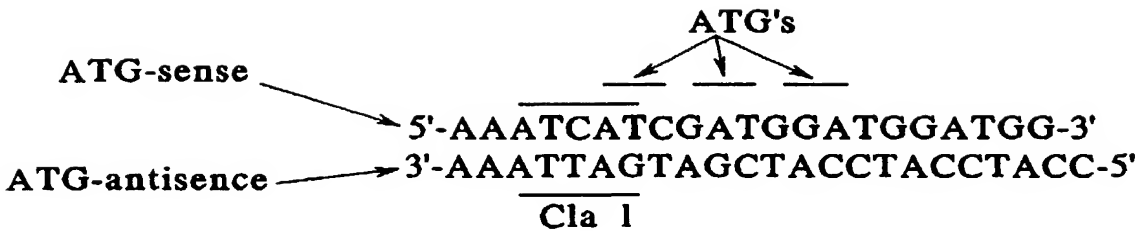

ATG's
ATG-sense
5'-AAATCATCGATGGATGGATGG-3'
ATG-antisence
3'-AAATTAGTAGCTACCTACCTACC-5'
Cla I

FIG. 4

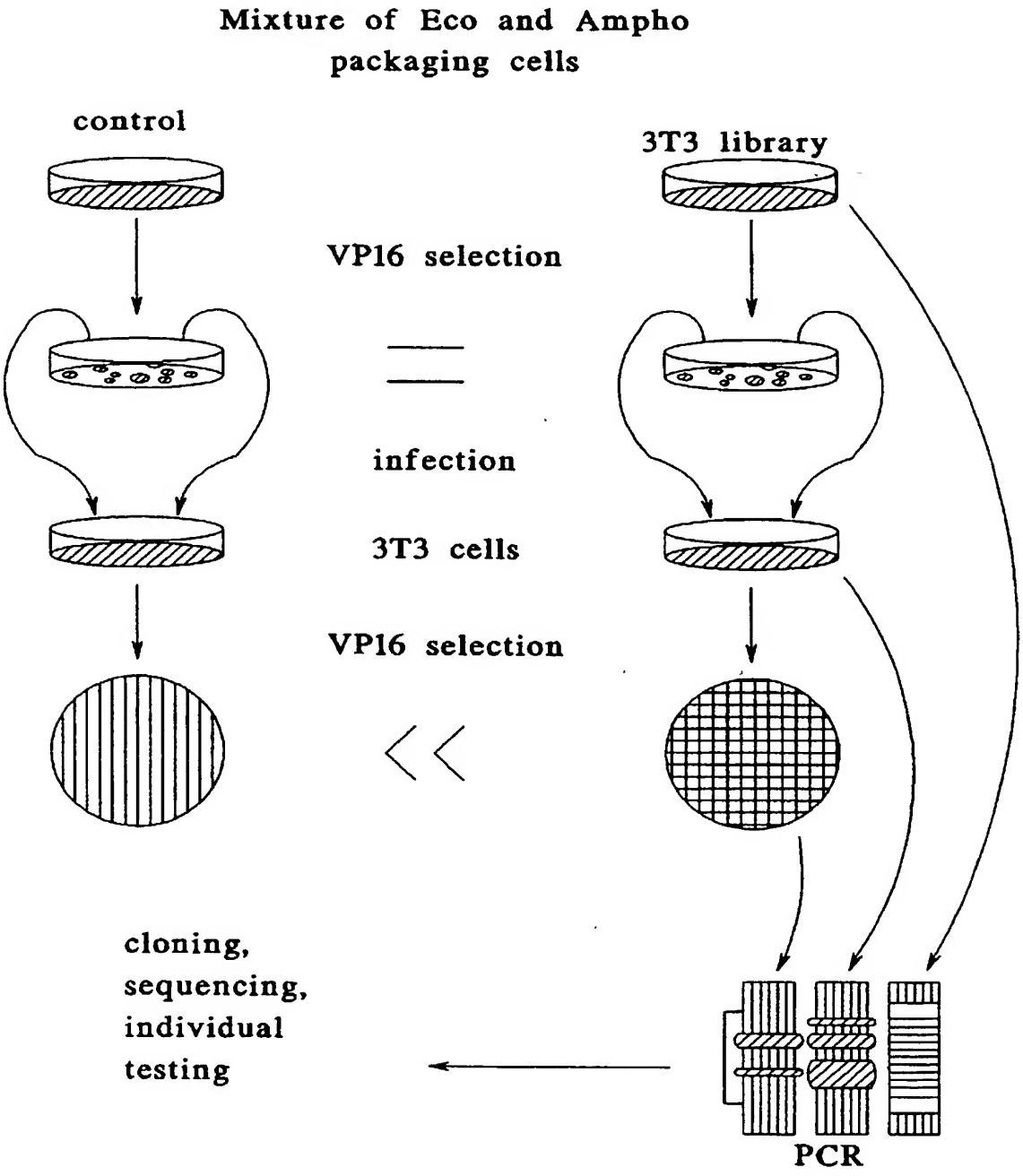
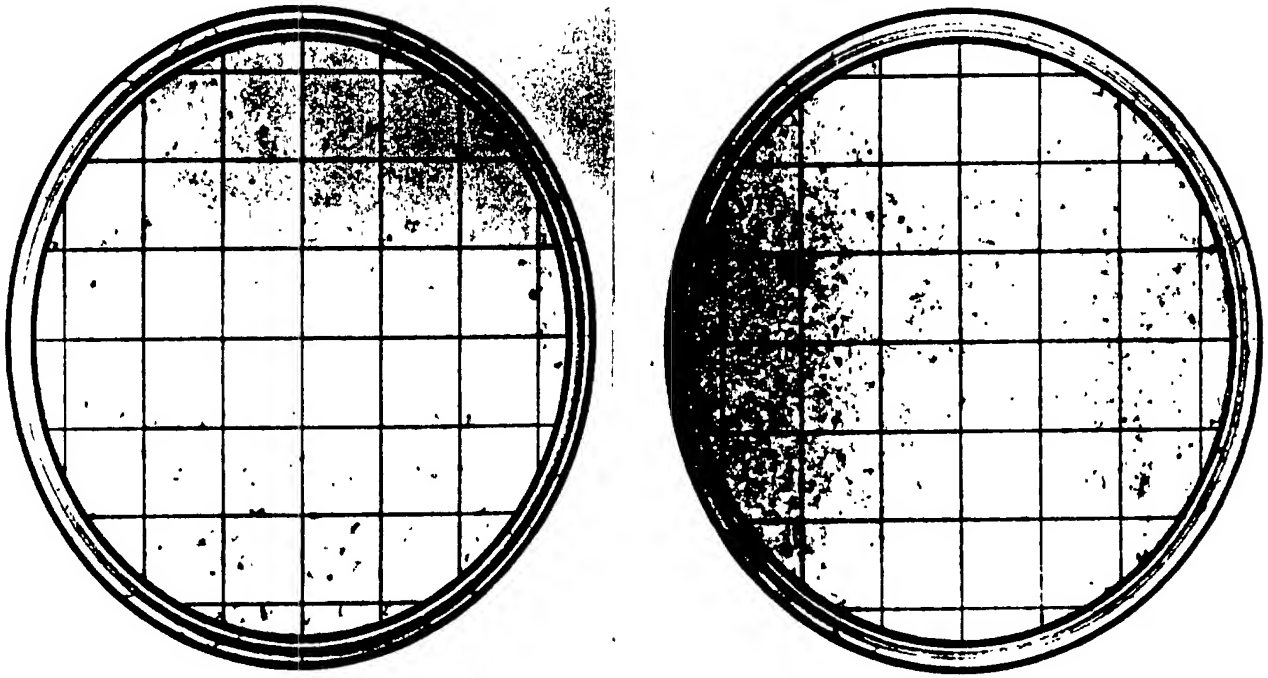

Mixture of Eco and Ampho
packaging cells
control
3T3 library
VP16 selection
infection
3T3 cells
VP16 selection
cloning,
sequencing,
individual
testing
PCR

Fig 5A



control

infection

VP16 selection

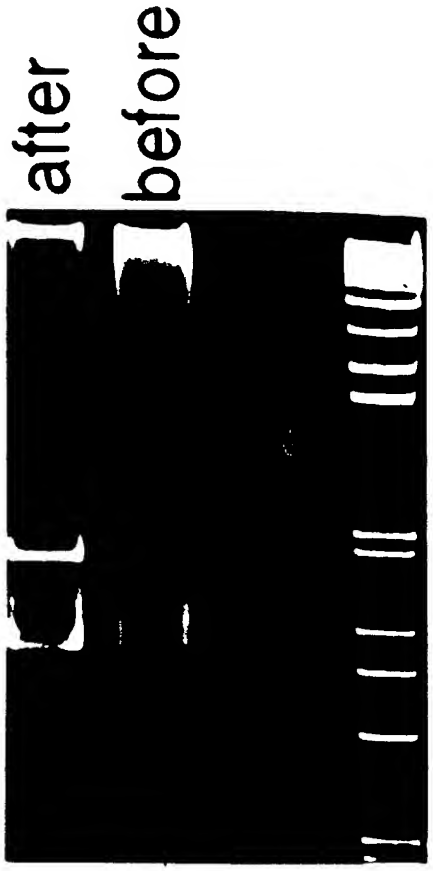


Fig 5B

FIG. 6

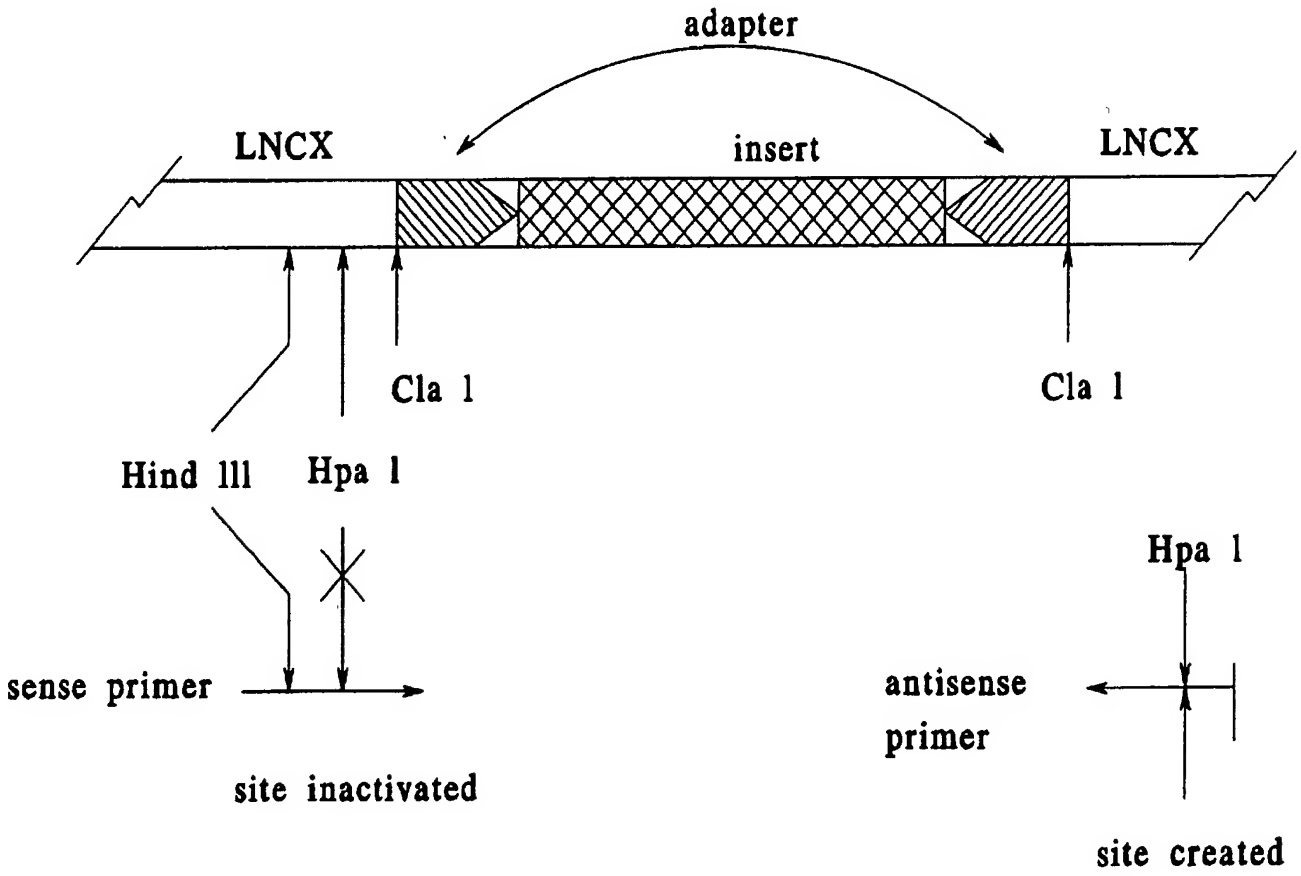
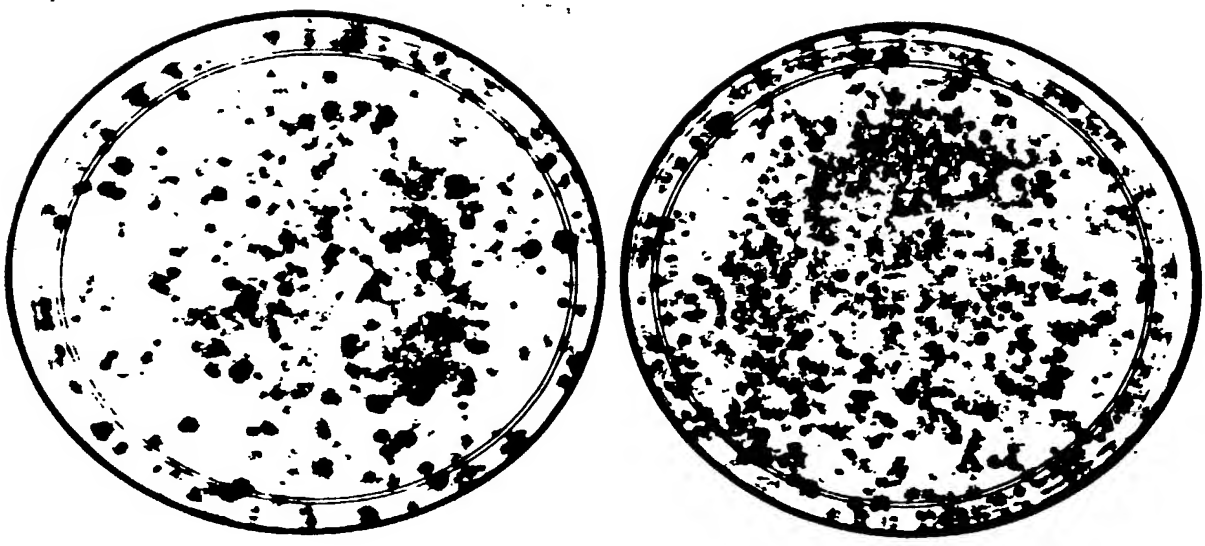

adapter
LNCX
insert
LNCX
Cla 1
Cla 1
Hind III
Hpa 1
sense primer
site inactivated
Hpa 1
antisense primer
site created

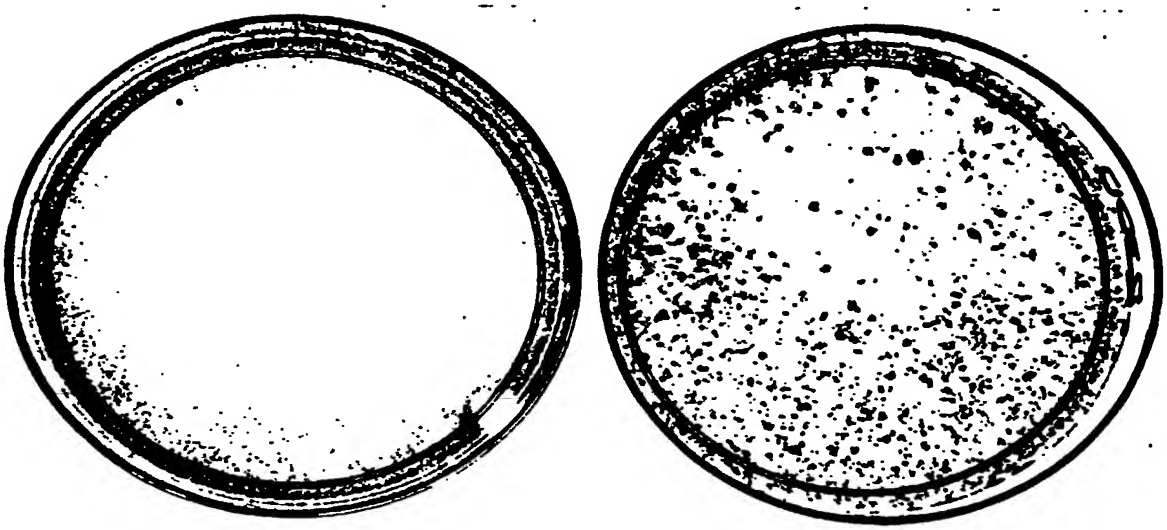
Figure 7A



insert-free vector

VPA

Figure 7B



insert-free vector

VP9-11

Fig. 8A

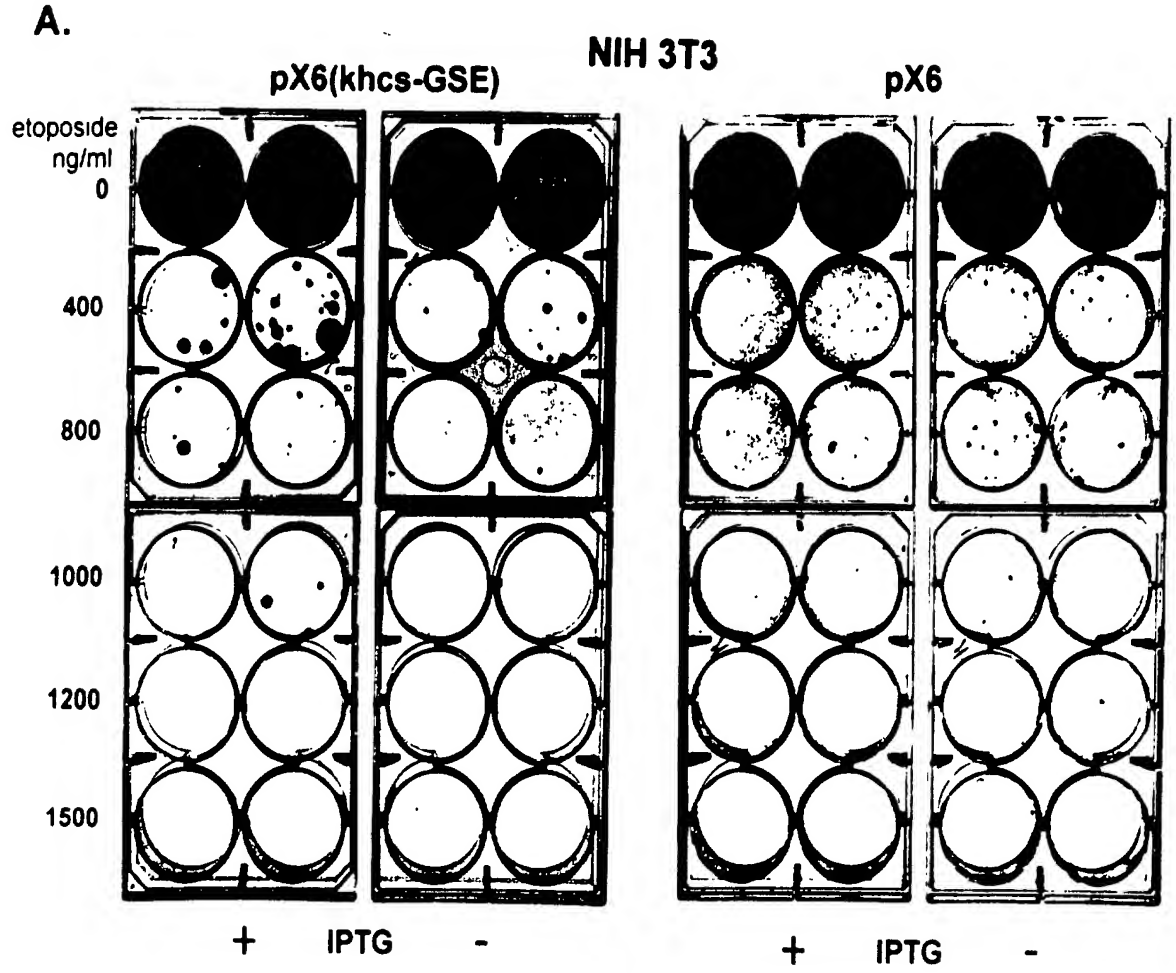

A.
NIH 3T3
pX6(khcs-GSE)
pX6
etoposide ng/ml
0
400
800
1000
1200
1500
+ IPTG -
+ IPTG -

FIG. 8B

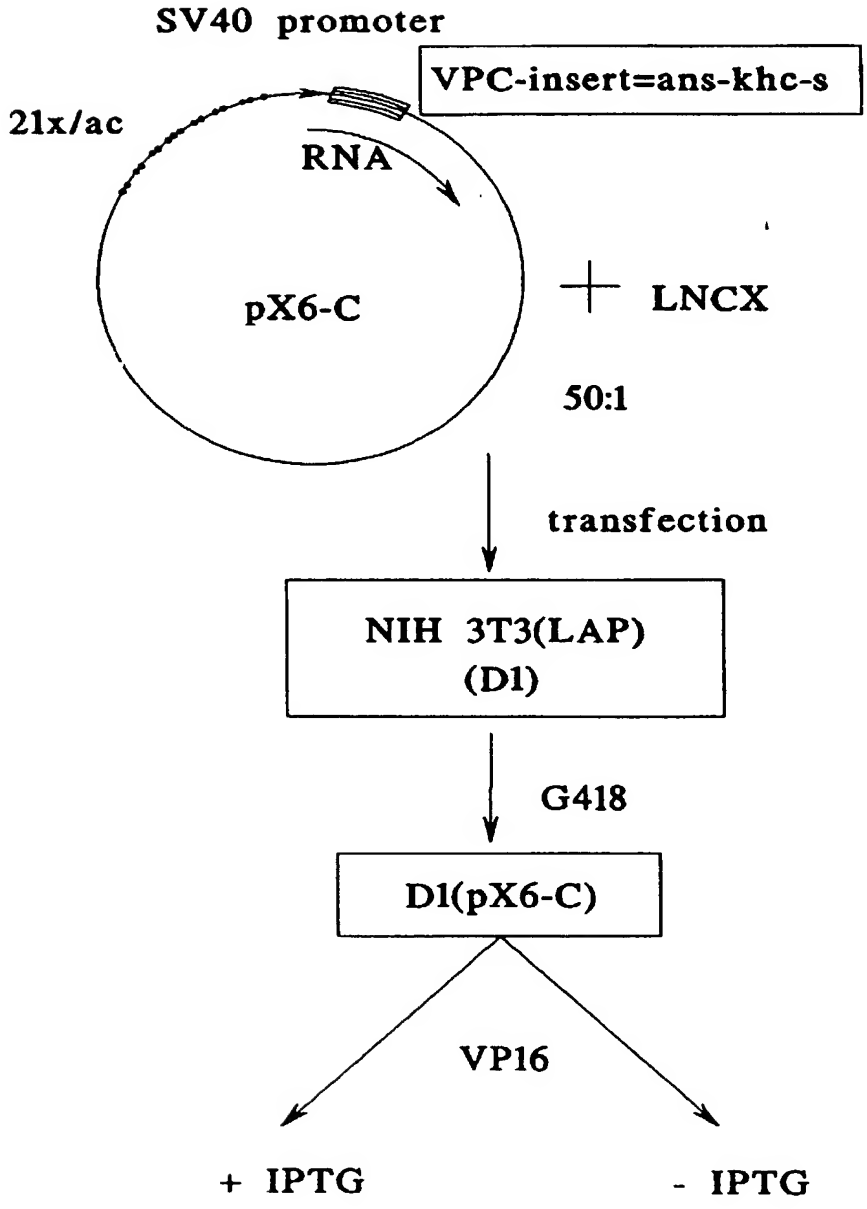

SV40 promoter
VPC-insert=ans-khc-s
21x/ac
RNA
pX6-C
LNCX
50:1
transfection
NIH 3T3(LAP)
(D1)
G418
D1(pX6-C)
VP16
+ IPTG
- IPTG

FIG. 9

```
CTTGATCCCT TCTGGTTGAT GCCAGAAGCT CTTCCTGATC CAGCATTTGT ATCTTCAATT    60
TCTCTACCAA TTGGCTTTGT TGGTTAATCT CTTCATCCTT GTCATCAAGT TGTTTATACA   120
ATTTAGCAAG TTCTTCTTCA CACTTTCTTC TTTCAGCATC GGTAAAACTA CCAGCCATTC   180
CGACTGCAGC AGCTGGTTTA TCACTGGTAA TAGCAATATC TTTATCCGCT GTGAAGGCTT   240
CCAAATTAGC TTTCTCTTTG TCAAACTGCT CATCAATAGG CACTGTCTCC CCGTTACGCC   300
AACGGTTTAG CTCGTTTTCC AGCCACT                                       327
```

FIG. 10

```
CCGACCGGGA GCGGGAGAAG GAGCGGGAGC GGGAGCAGCG GGAGAAGGAG CGGGAGAAGG    60
AGCTGGAGCG CGACGGGAGA AGGAACGGGA GCGCGAGCTG GAGCGGCAGC GGGAGCAGCG   120
GGCGAGGGAG AAGGAGCTGC TGGCTGCCAA GGCCTTAGAG CCCACCACCT TCCTGCCTGT   180
GGCCGAGCTG CACGGACTCC GAGGTCACAG CACGGAGGAG CGGCCCAAGC CCTCGGAGCA   240
GCTGACCCCA                                                          250
```

FIG. 11

```
CTCAGAGGTG ATCCTCTCGG AGTCGAGCTC AGGAGAAGGA GTCCCCTTCT TTGAGACTTG    60

GATGCAGACC TGCATGTCCG AGGAGGGCAA GATTTTGAAC CCTGACCATC CCTGCTTCCG   120

CCCTGACTCC ACCGAAGTCG AGTCCTTGGT GGCCCTGCTC AACAACTCTT CAGAGATGAA   180

GCTAGTACAG ATGAAGTAGC ACGAGGCC                                      208
```

FIG. 12A

```
CGACAAACAT CATCTGGGAA GACCCACACG ATGGAGGGTA AACTTCATGA TCCAGAAGGC     60
ATGGGAATTA TTCCAAGAAT AGTGCAAGAT ATTTTTAATT ATATTTACTC CATGGATGAA    120
AATTTGGAAT TTCATATTAA GGTTTCATAT TTTGAAATAT ATTTGGATAA GATAAGGGAC    180
TTGTTAGATG TTTCAAAGAC TAACCTTTCA GTCCATGAAG ACAAAAACCG TGTTCCCTAT    240
GTAAAGGGGT GCACAGAACG TTTCGTGTGT AGTCCAGATG AAGTCATGGA TACCATAGAT    300
GAAGGGAAAT CCAACAGAGA TGTCGCAGTT ACAAATATGA ATGAACATAG CTCTAGGAGC    360
CACAGCATAT TTCTTATTAA TGTAAAACAA GAGAATACAC AAACGGAACA GAAACTCAGT    420
GGAAAGCTTT ATCTGGTTGA TTTAGCTGGC AGTGAGAAGG TTAGTAAGAC TGGGGCTGAA    480
GGTGCTGTGC TGGATGAAGC TAAGAACATC AAGAAGTCAC TTTCTGCACT TGGAAATGTC    540
ATTTCTGCTT TGGCAGAGGG CAGTACCTAT GTTCCTTATC GAGATAGTAA AATGACCAGA    600
ATTCTTCAAG ATTCATTAGG TGGCAACTGT AGGACCACTA TTGTCATATG CTGCTCTCCA    660
TCATCATACA ATGAGTCTGA GACAAAGTCA ACACTCCTCT TTGGTCAAAG GGCCAAAACA    720
ATTAAGAACA CAGTCTGTGT CAATGTAGAG TTAACTGCAG AGCAGTGGAA AAAGAAGTAT    780
```

FIG. 12B

```
GAAAAAGAAA AGGAAAAAAA TAAGACTCTA CGGAACACTA TTCAGTGGCT GGAAAACGAG    840
CTAAACCGTT GGCGTAACGG GGAGACAGTG CCTATTGATG AGCAGTTTGA CAAAGAGAAA    900
GCTAATTTGG AAGCCTTCAC AGCGGATAAA GATACTGCTA TTACCAGTGA TAAACCAGCT    960
GCTGCAGTCG GAATGGCTGG TAGTTTTACC GATGCTGAAA GAAGAAAGTG TGAAGAAGAA   1020
CTTGCTAAAT TGTATAAACA GCTTGATGAC AAGGATGAAG AGATTAACCA ACAAAGCCAA   1080
TTGGTAGAGA AATTGAAGAC ACAAATGCTG GATCAGGAAG AGCTTCTGGC ATCAACCAGA   1140
AGGGATCAAG ATAATATGCA AGCTGAACTG AATCGCCTCC AAGCAGAAAA TGATGCTTCT   1200
AAAGAAGAAG TCAAAGAAGT TTTACAGGCC TTAGAGGAAC TGGCTGTTAA TTATGATCAG   1260
AAGTCTCAGG AAGTTGAAGA CAAAACAAAG GAATATGAAT TGCTTAGTGA TGAATTGAAT   1320
CAAAAATCTG CAACTTTAGC AAGTATTGAT GCTGAGCTTC AGAAGCTGAA GGAAATGACC   1380
AACCACCAGA AGAAACGAGC AGCTGAAATG ATGGCATCAT TATTAAAAGA CCTTGCAGAA   1440
ATAGGAATTG CTGTGGGGAA TAACGATGTG AAGCAACCAG AAGGAACTGG TATGATAGAT   1500
GAAGAGTTTA CTGTTGCAAG ACTCTACATT AGCAAAATGA AATCAGAAGT AAAGACCATG   1560
```

FIG. 12C

```
GTGAAACGCT GCAAACAGCT AGAAAGCACG CAGACTGAGA GCAACAAAAA AATGGAAGAA    1620
AATGAGAAAG AGTTAGCAGC ATGCCAGCTT CGGATCTCCC AACATGAAGC CAAAATCAAG    1680
TCACTGACTG AGTACCTTCA GAATGTAGAA CAAAAGAAGA GGCAGCTGGA GGAATCTGTT    1740
GATTCCCTTG GTGAGGAGCT AGTCCAACTC CGAGCACAAG AGAAAGTCCA TGAAATGGAA    1800
AAAGAGCACT TGAACAAGGT TCAGACTGCA AATGAAGTCA AGCAAGCTGT TGAGCAGCAG    1860
ATCCAGAGTC ACAGAGAAAC CCACCAAAAA CAAATCAGTA GCTTGCGAGA TGAAGTTGAG    1920
GCAAAGGAAA AGCTAATCAC TGACCTCCAA GACCAAAACC AGAAGATGGT GTTGGAGCAG    1980
GAACGGCTAA GGGTGGAGCA TGAGAGGCTG AAGGCTACAG ACCAAGAGAA GAGCAGGAAG    2040
CTGCATGAGC TCACGGTTAT GCAAGACAGA CGAGAACAAG CAAGACAAGA CTTGAAGGGT    2100
TTGGAGGAGA CCGTGGCAAA AGAACTTCAG ACTTTACACA ACCTGCGTAA GCTCTTTGTT    2160
CAGGACTTGG CTACCAGGGT GAAAAAGAGG CCGAGGTCGA CTCTGACGAC ACTGGCGGCA    2200
GTGCTGCACA GAAGCAGAAA ATCTCCTTCC TTGAAAACAA CCTTGAACAG CTCACCAAAG    2280
TGCACAAGCA GTTGGTACGT GATAATGCAG ATCTTCGCTG TGAGCTTCCT AAGTTAGAGA    2340
AACGGCTTAG AGCTACTGCA GAAAGAGTGA AAGCTTTGGA GTCAGCCCG               2389
```

FIG. 13A

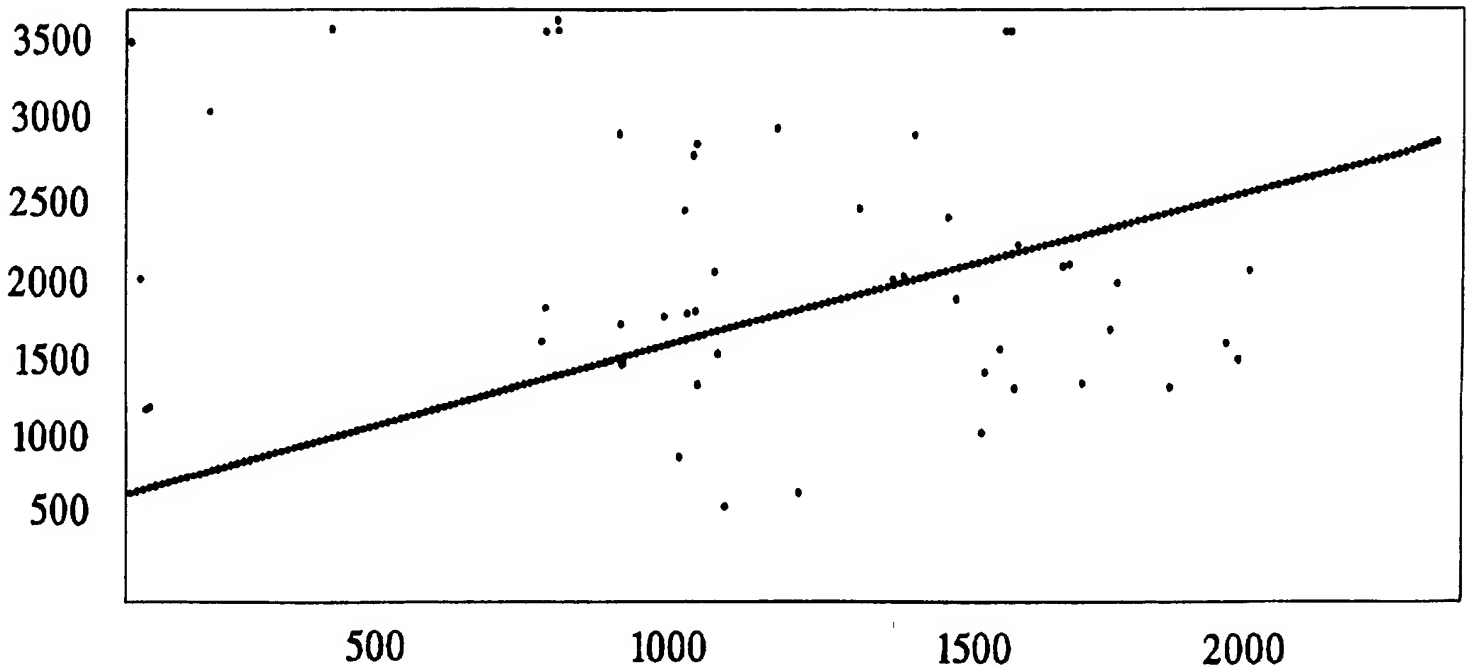


FIG. 13B

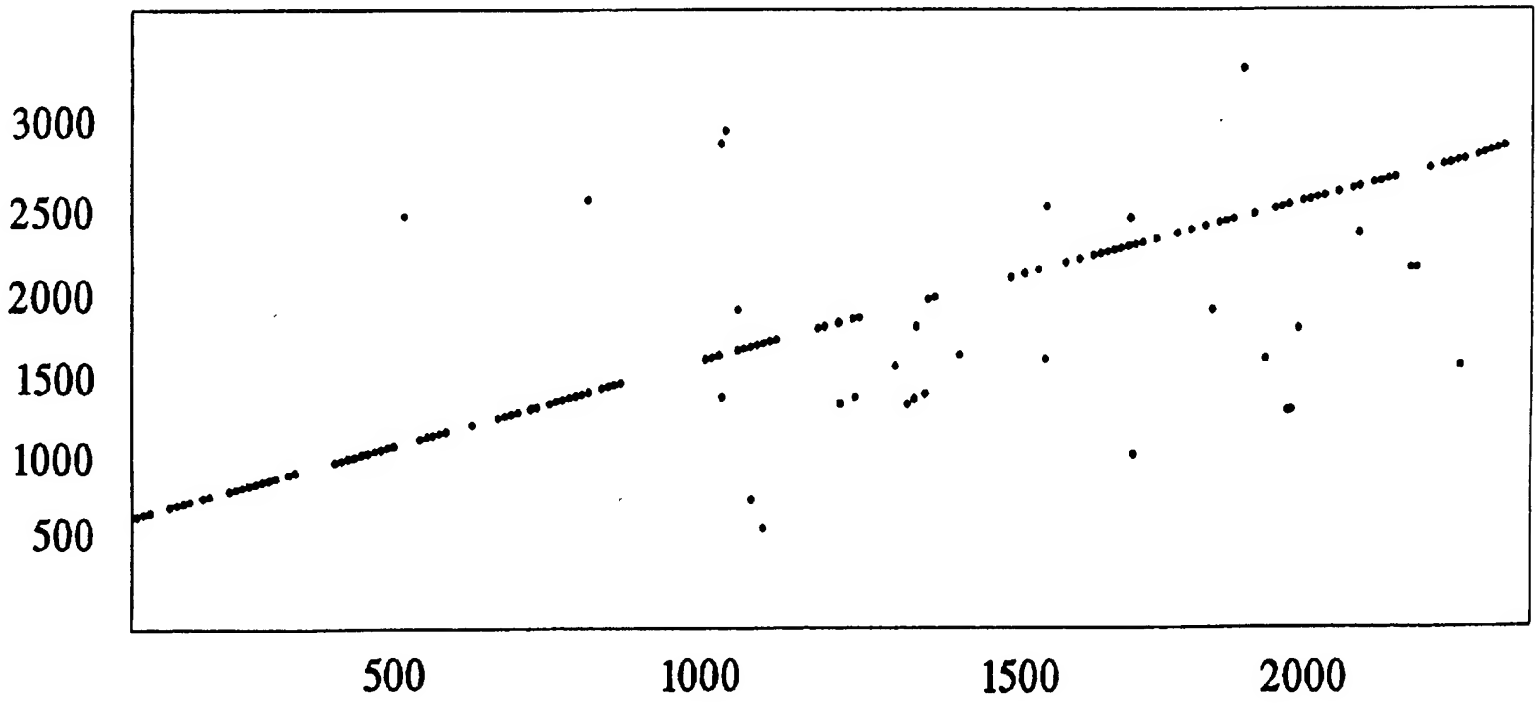


FIG. 13C

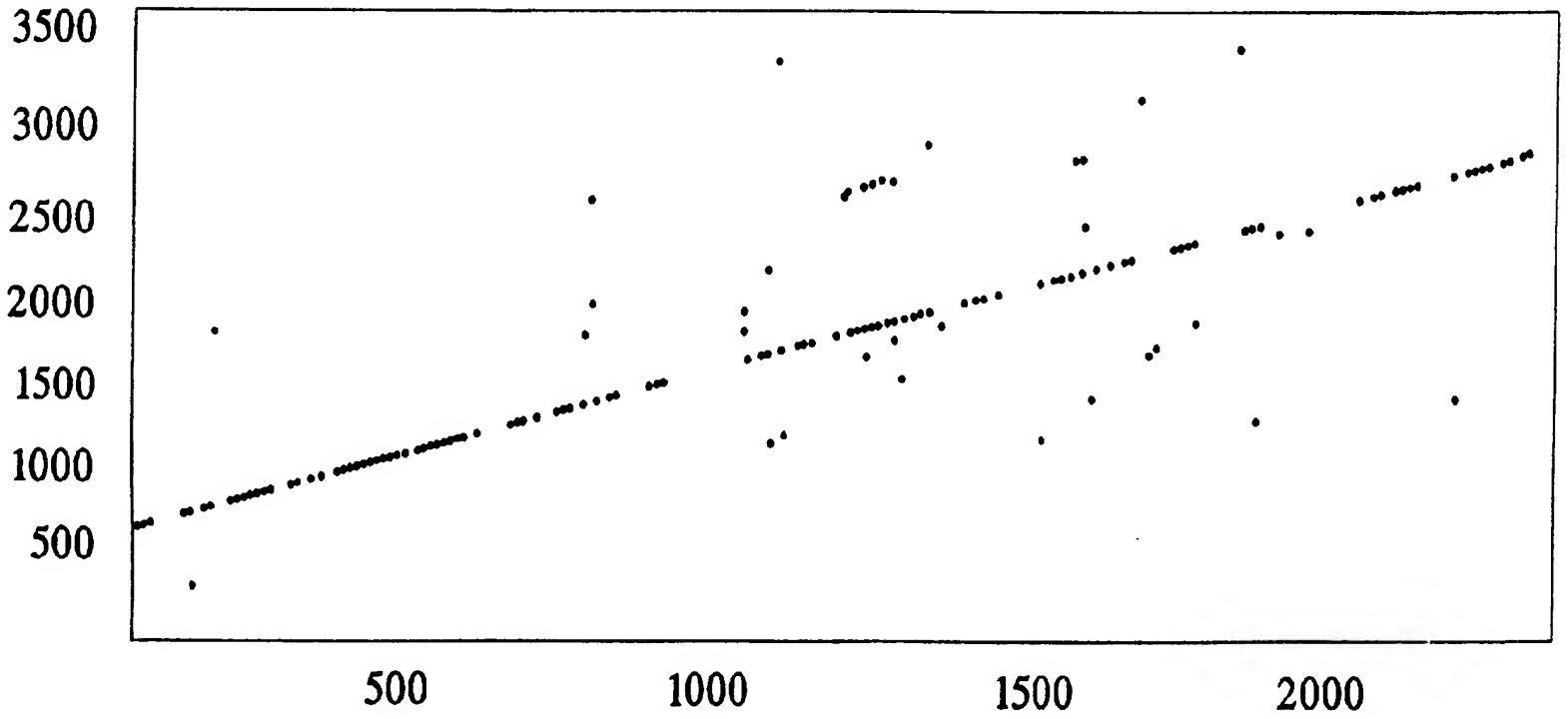


FIG. 13D

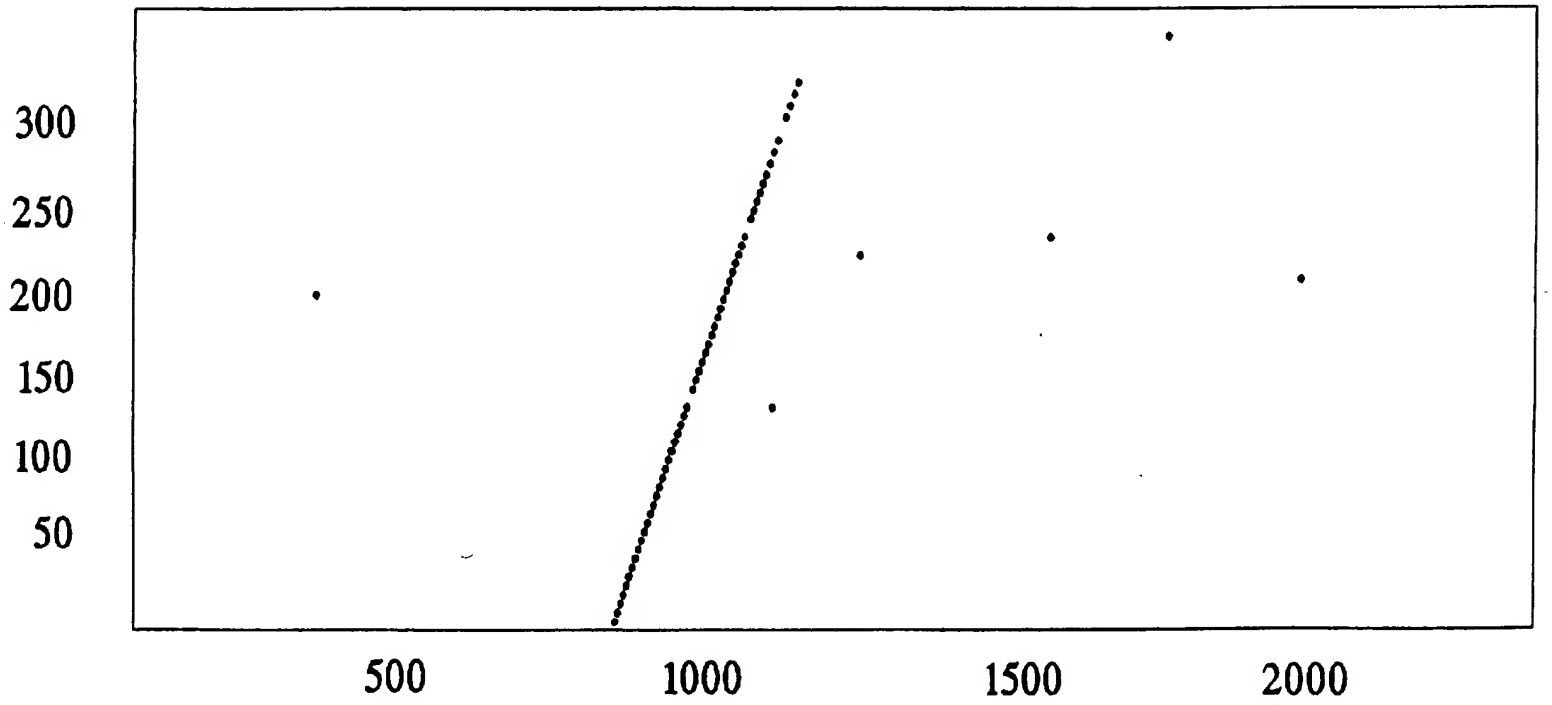


FIG. 14A

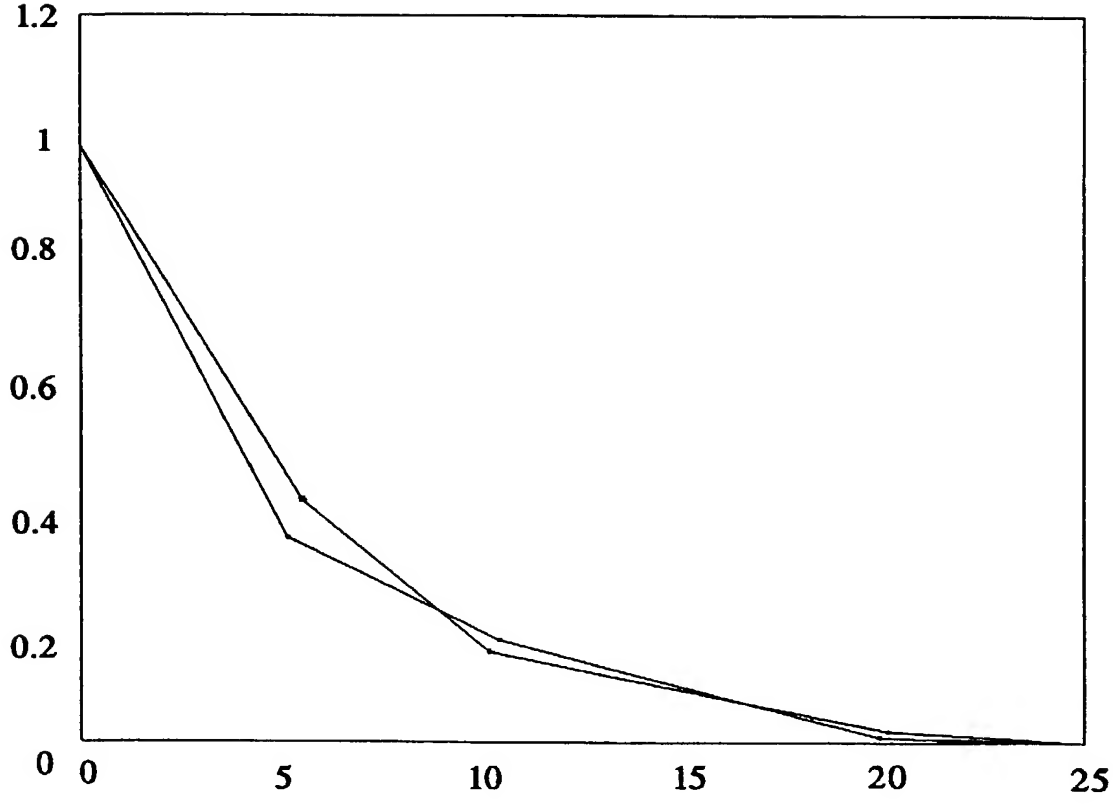


FIG. 14B

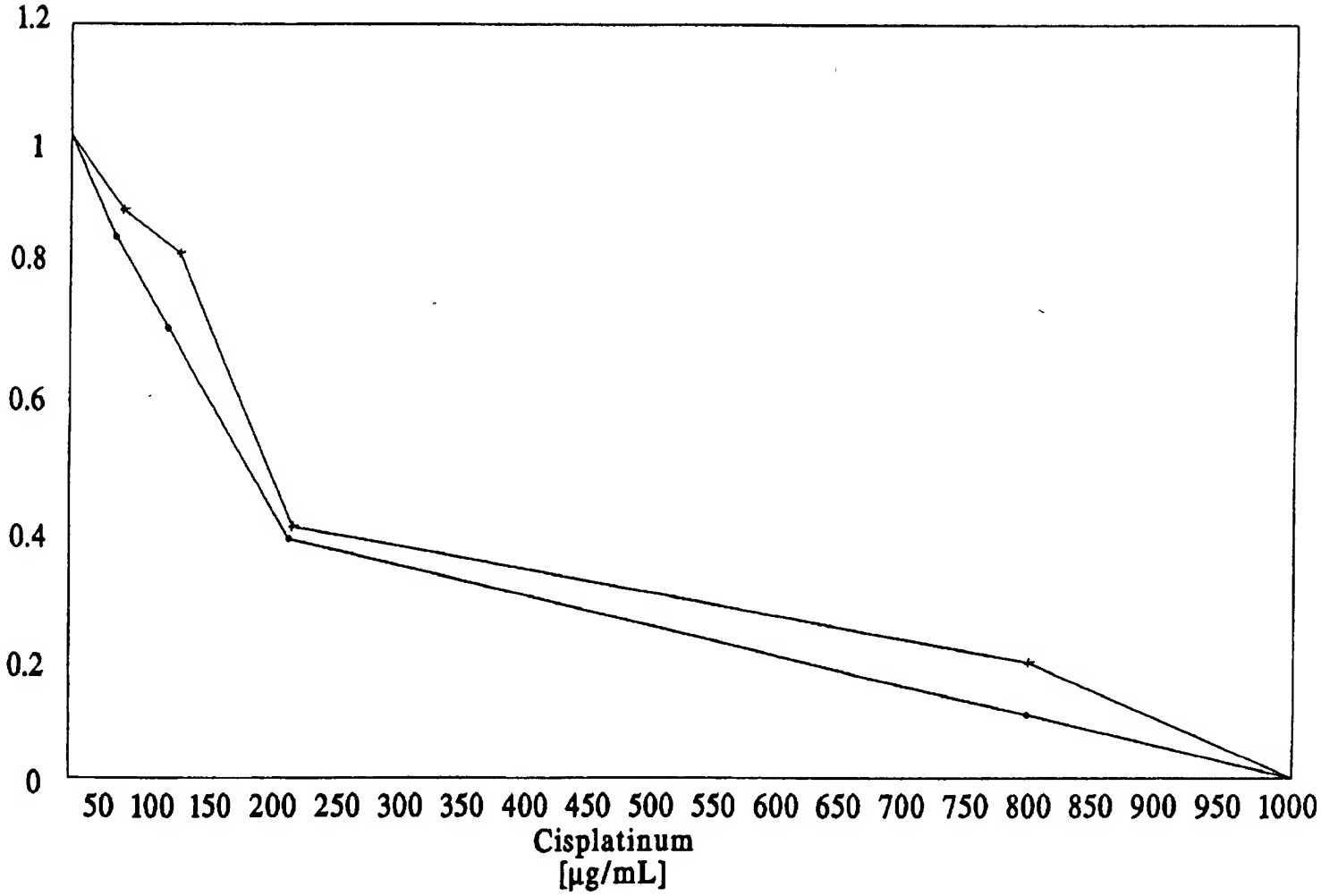

1.2
1
0.8
0.6
0.4
0.2
0
50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000
Cisplatinum
[µg/mL]

FIG. 14C

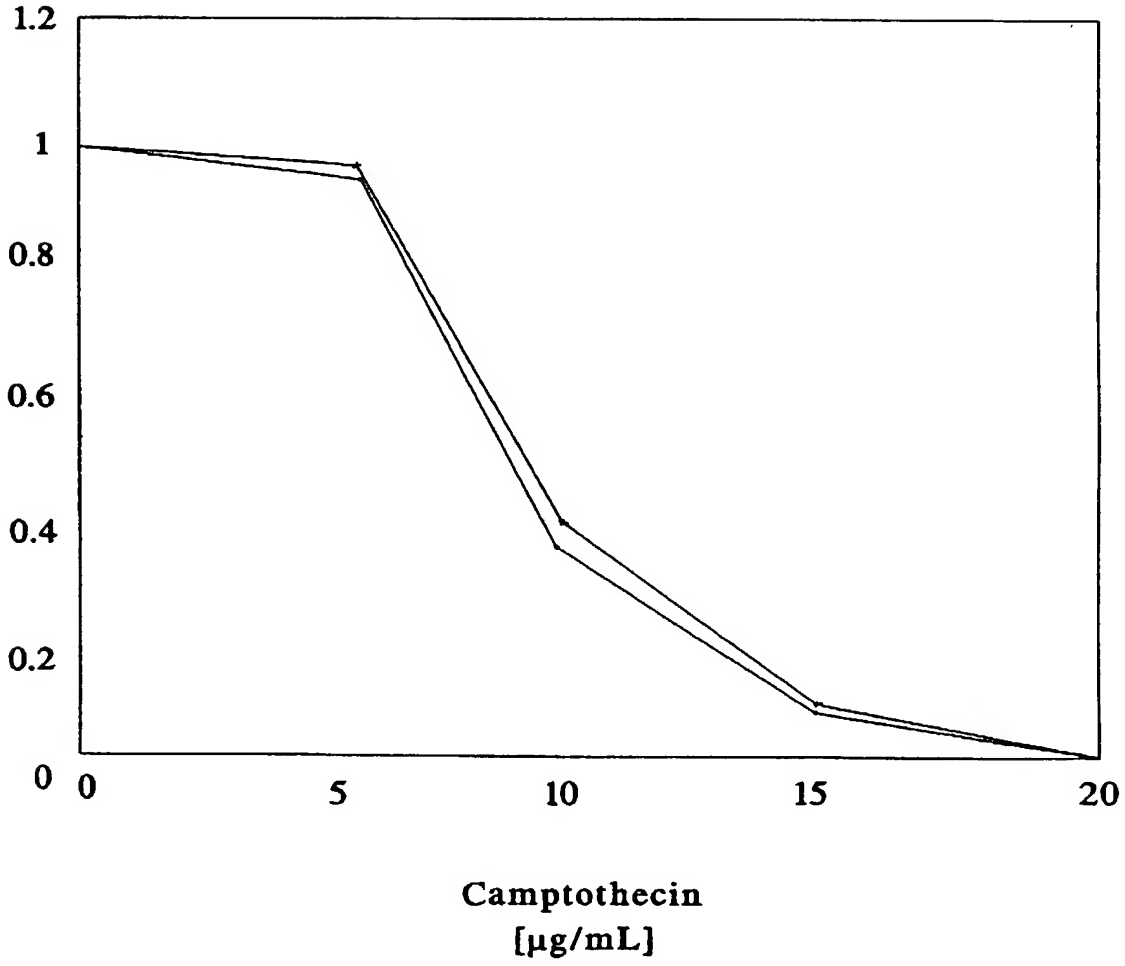


FIG. 14D

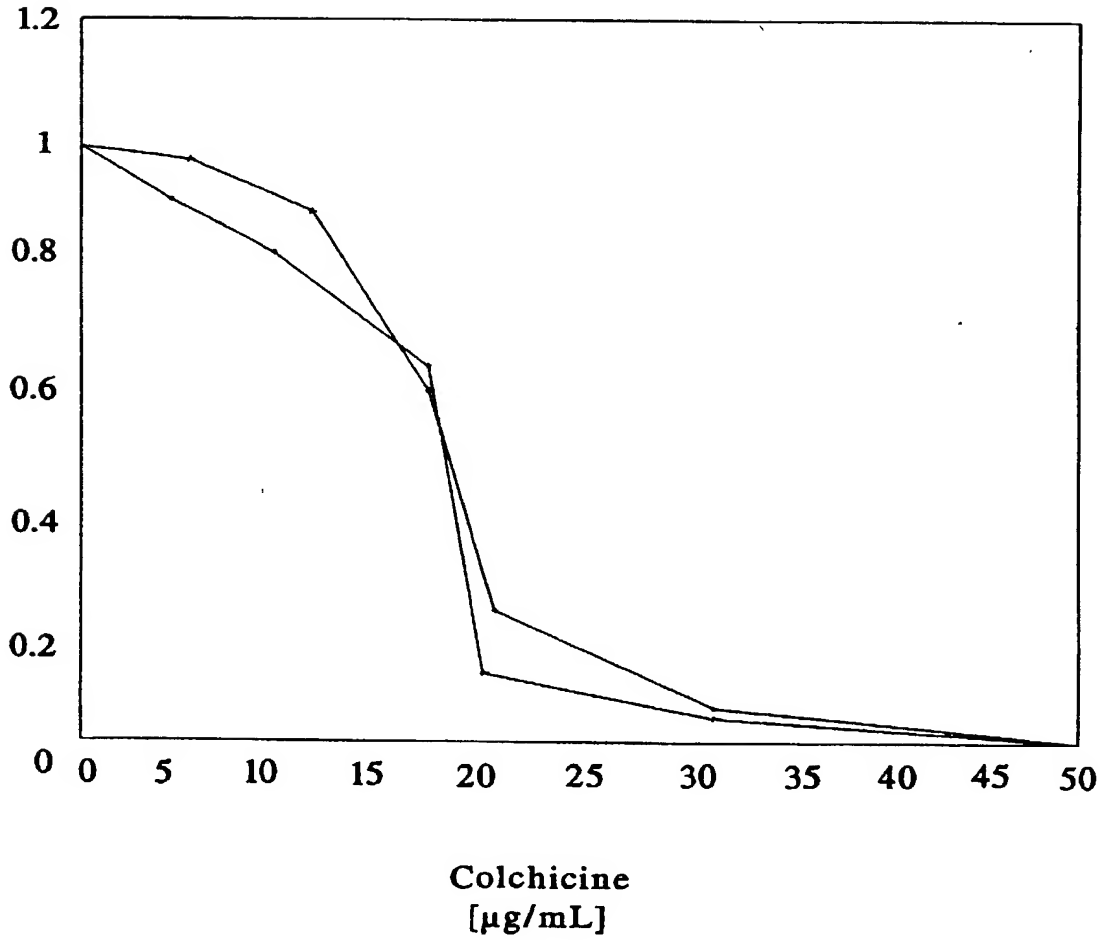


FIG. 14E

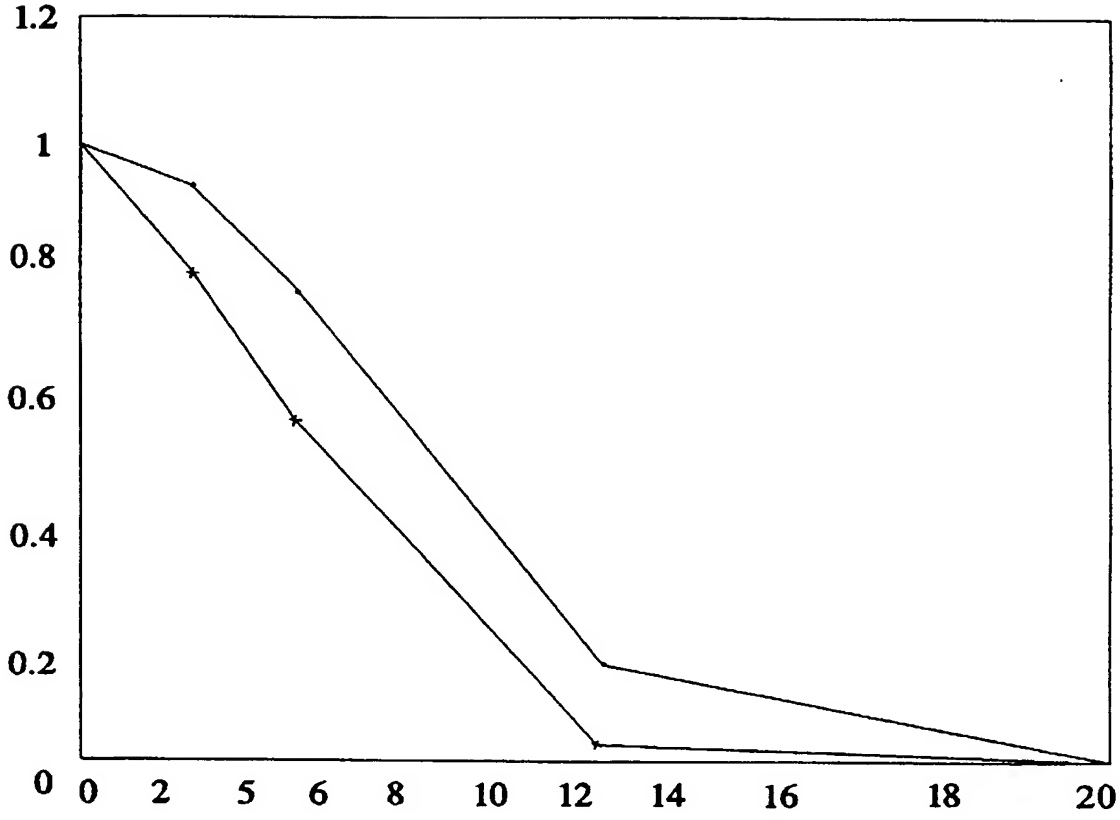


FIG. 14F

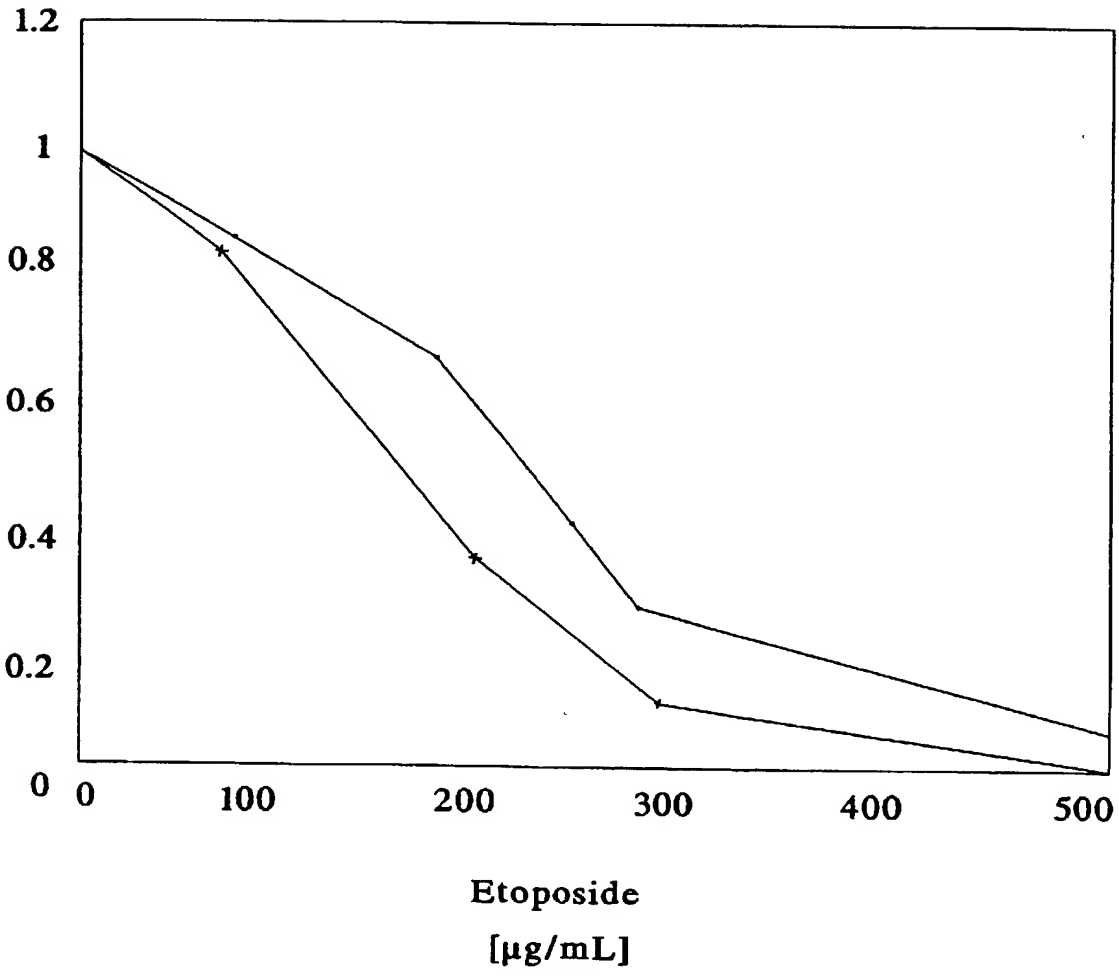
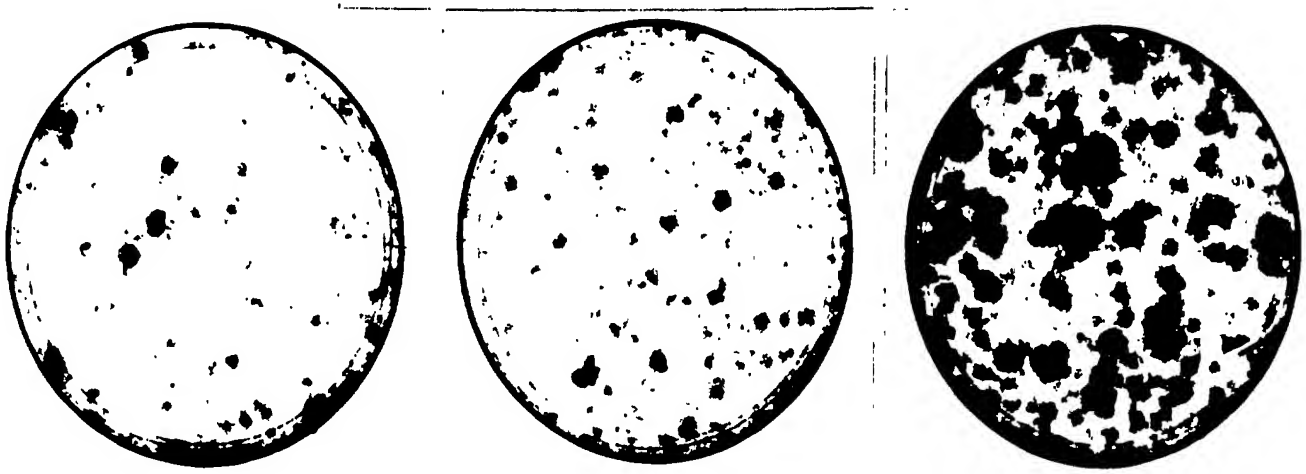


Fig 15

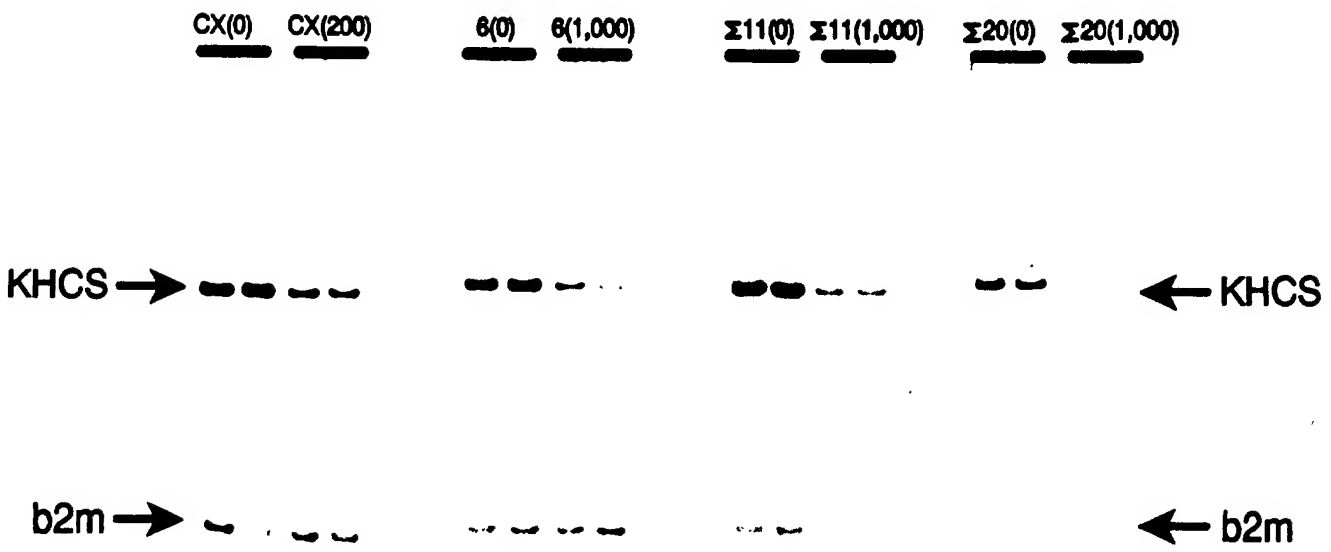


no infection

insert-free vector

anti-khcs GSE

Figure 16


CX(0)
CX(200)
6(0)
6(1,000)
Σ11(0)
Σ11(1,000)
Σ20(0)
Σ20(1,000)
KHCS
KHCS
b2m
b2m